

# **Fallbeispiel**



Für das Modul Seminar 1
soll ich eine
Fragestellung erstellen
und einen
wissenschaftlichen
Bericht schreiben



## Review article

An overview of the features of chatbots in mental health: A scoping review



# Idee für Forschungsfrage

### **Brainstorm research questions**



- ☆ When do chatbot conversations generate effective mental health care interventions?
- What are the effects of chatbot therapy on children and adults with psychological disorders, as compared to human therapists?
- ☆ Is e-therapy as effective as in-person therapy?

Tool: https://ide.elicit.org

## Feedback durch ChatGPT

- Einholen von Feedback zur Fragestellung
- ► Erhalten von Verbesserungsvorschlägen

## Eingabe:

Verhalte dich wie eine wissenschaftliche Betreuungsperson in ihrer Sprechstunde. Du musst den aktuellen Stand meiner Hausarbeit überprüfen und kritisch beurteilen. Dazu evaluierst du meine Forschungsfrage und äusserst konstruktive Kritik in Bezug auf deren Stärken und Schwächen. Die Fragestellung lautet:

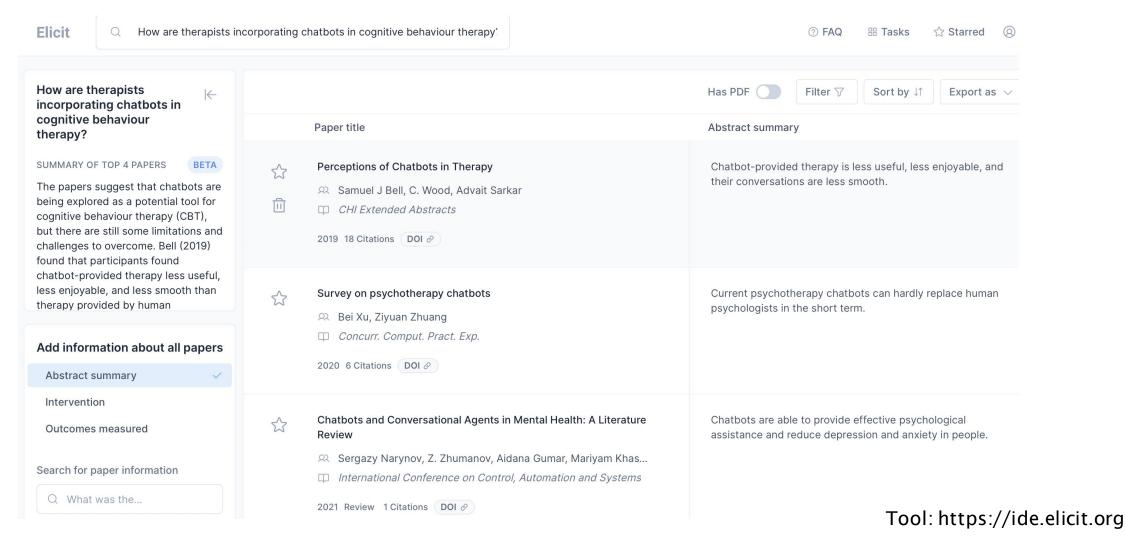
Wie binden Therapeuten Chatbots in der Behandlung ein?

## Feedback durch ChatGPT

## Wie binden Therapeuten Chatbots in der Behandlung ein?

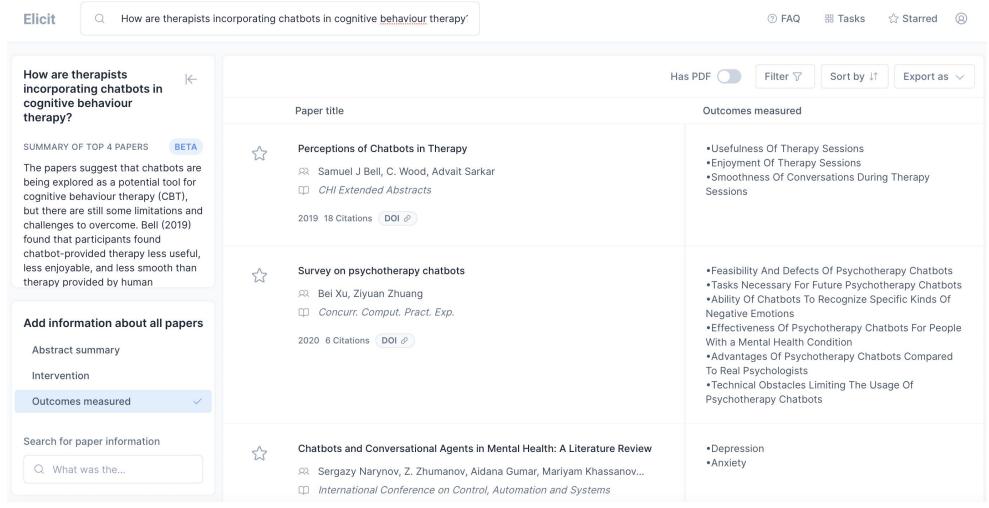
- ▶ [...] Zum Beispiel ist die Formulierung der Forschungsfrage zu breit gefasst. Es ist nicht klar, welche Art von Therapeuten untersucht werden sollen, welche Art von Chatbots untersucht werden sollen und welche Art von Therapie untersucht werden soll. Das Fehlen dieser spezifischen Informationen kann dazu führen, dass Ihre Studie nicht aussagekräftig genug ist und keine klaren Ergebnisse liefert.
- Zusätzlich ist es wichtig, sich bewusst zu sein, dass Chatbots in der Therapie ein relativ neues Thema sind, und es noch wenige Studien zu diesem Thema gibt. Es könnte schwierig sein, genügend relevante Literatur zu finden, um eine aussagekräftige Arbeit zu schreiben.
- Mein Vorschlag wäre, Ihre Forschungsfrage auf eine bestimmte Art von Therapie und Chatbot zu fokussieren. Zum Beispiel könnten Sie untersuchen, wie Therapeuten Chatbots in der kognitiven Verhaltenstherapie einbinden oder wie sich die Nutzung von Chatbots in der Behandlung von Depressionen auswirkt.

# Rechercheunterstützung



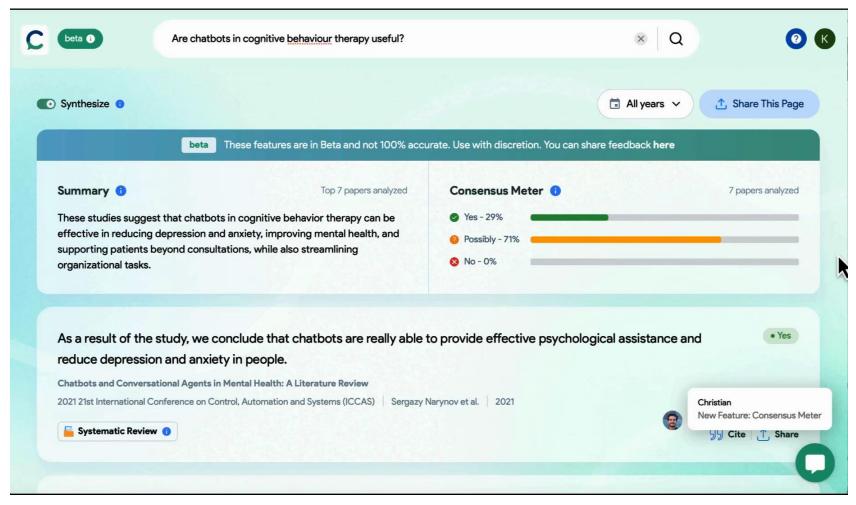
Berner Fachhochschule | Haute école spécialisée bernoise | Bern University of Applied Sciences

# Rechercheunterstützung



Tool: https://ide.elicit.org

# Unterstützung für Belege in der Diskussion



Tool: https://consensus.app/

## Generieren einer Struktur und Text zum Thema

- I. Introduction
- A. Definition of Cognitive Behaviour Therapy
- 1. Overview of CBT
- 2. Benefits of CBT
- B. Definition of Chatbots
  - 1. Overview of Chatbots
- 2. Benefits of Chatbots
- II. The Role of Chatbots in Cognitive Behavioural Therapy
- A. How Chatbots Are Used in CBT
- Types of Chatbots
- 2. Using Chat bots in CBT
- B. Advant ages of Chat bots in CBT
  - 1. Increased Access to Therapy
- 2. Improved Outcomes
- III. Challenges of Using Chatbots in Cognitive Behavioural Therapy
- A. Limit ations of Chatbots
  - 1. Limit ations of Artificial Intelligence
  - 2. Limit ations of Access
- B. Ethical Considerations
  - 1. Privacy of Client Data
- 2. Professional Boundaries
- IV. Conclusion
- A. Summary of Research
  - B. Fut ure of Chat bots in CBT

### A. Definition of Cognitive Behaviour Therapy

### 1. Overview of CBT

Cognitive behaviour therapy is a treatment method

Consider the suggestions generated by QuillBot:

d that focuses on changing negative patterns of thinking and behaviour in order to improve mental health. It is based on the idea that our thoughts, feelings, and behaviours are interconnected and can influence each other.

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Tool: Quillbot - Co-Writer

# Abgabe der Arbeit



### Contents lists available at ScienceDirect

### International Journal of Medical Informatics



journal homepage: www.elsevier.com/locate/limedinf

Review article

An overview of the features of chatbots in mental health: A scoping review



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Keywords: Chatbots Conversational agents Mental health Mental disorders

ARTICLEINFO

Background: Chathots are systems that are able to converse and interact with human users using spoken, written and visual languages. Chatbots have the potential to be useful tools for individuals with mental disorders, especially those who are reluctant to seek mental health advice due to stigmatization. While numerous studies have been conducted about using chatbots for mental health, there is a need to systematically bring this evidence together in order to inform mental health providers and potential users about the main features of chatbots and their potential uses, and to inform future research about the main gaps of the previous literature.

Objective: We aimed to provide an overview of the features of chatbots used by individuals for their mental

health as reported in the empirical literature. Methods: Seven bibliographic databases (Medline, Embase, PsycINFO, Cochrane Central Register of Controlled

Trials, IEEE Xplore, ACM Digital Library, and Google Scholar) were used in our search. In addition, backward and forward reference list checking of the included studies and relevant reviews was conducted. Study selection and data extraction were carried out by two reviewers independently. Extracted data were synthesised using a narrative approach. Chatbots were classified according to their purposes, platforms, response generation, dia-logue initiative, input and output modalities, embodiment, and targeted disorders.

Results: Of 1039 citations retrieved, 53 unique studies were included in this review. The included studies assessed 41 different chatbots. Common uses of chatbots were: therapy (n = 17), training (n = 12), and screening (n-10). Chatbots in most studies were rule-based (n-49) and implemented in stand-alone software (n-37). In 46 studies, chatbots controlled and led the conversations. While the most frequently used input modality was written language only (n - 26), the most frequently used output modality was a combination of written, spoken and visual languages (n = 28). In the majority of studies, chatbots included virtual representations (n = 44). The most common focus of chatbots was depression (n = 16) or autism (n = 10).

Conclusion: Research regarding chatbots in mental health is nascent. There are numerous chatbots that are used for various mental disorders and purposes. Healthcare providers should compare chatbots found in this review to help guide potential users to the most appropriate chatbot to support their mental health needs. More reviews are needed to summarise the evidence regarding the effectiveness and acceptability of chatbots in mental health.

The World Health Organisation defines mental health as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruit-fully, and is able to make a contribution to his or her community" [1]. It has been estimated that mental disorders may affect 29% of people in

their lifetime [2]. Globally, mental disorders are considered one of the most common causes of disability [3]. In 2010, 28.5% of global Years Lived with Disability (YLDs) were caused by mental, neurological and substance use disorders, making them the top cause of YLDs [4]. Further, they caused about 10% of global Disability-Adjusted Life Years (DALYs) [4]. Importantly, absolute DALYs for these disorders increases from 182 million to 258 million (41%) over 20 years (1990-2010) [4].







Chatbots kognitiven Verhaltenstherapie Potenziale und Grenzen im Einsatz

Studiengang Autor

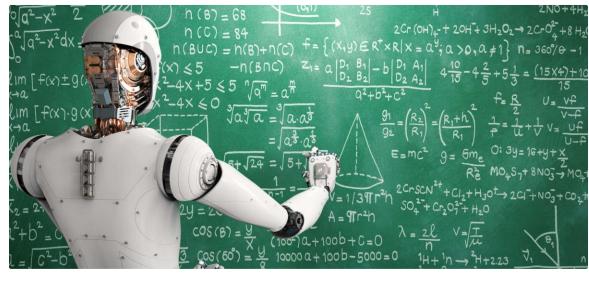
Medizininformatik Engagierte Studentin

Prof. Dr. Kerstin Denecke 08.Mai 2023

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# Künstliche Intelligenz in der Lehre





Simplifying Student`s Life?

Complicating Lecturer`s Life?

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